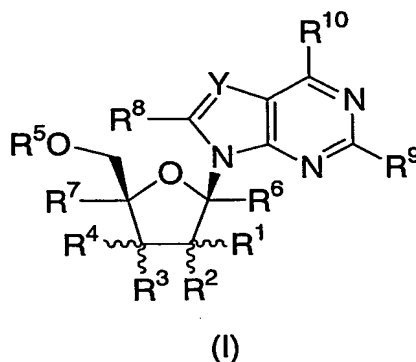


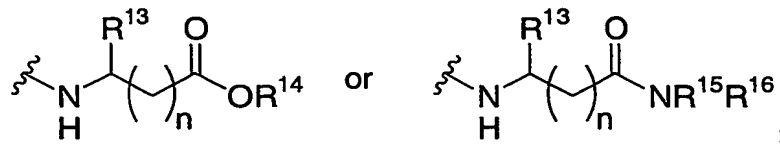
WHAT IS CLAIMED IS:

1. A compound of the structural formula I:



- 5 or a pharmaceutically acceptable salt thereof; wherein
 n is 0, 1, or 2;
 Y is N or C-R¹⁷;
 R¹ is C₂₋₄ alkenyl, C₂₋₄ alkynyl, or C₁₋₄ alkyl, wherein alkyl is unsubstituted or
 substituted with hydroxy, amino, C₁₋₄ alkoxy, C₁₋₄ alkylthio, or one to three fluorine
 10 atoms;
 R² is hydrogen, amino, fluorine, hydroxy, mercapto, C₁₋₄ alkoxy, or C₁₋₄ alkyl;
 R³ and R⁴ are each independently selected from the group consisting of hydrogen,
 cyano, azido, halogen, hydroxy, mercapto, amino, C₁₋₄ alkoxy, C₂₋₄ alkenyl, C₂₋₄
 alkynyl, and C₁₋₄ alkyl, wherein alkyl is unsubstituted or substituted with hydroxy,
 15 amino, C₁₋₄ alkoxy, C₁₋₄ alkylthio, or one to three fluorine atoms;
 R⁵ is hydrogen, C₁₋₁₀ alkylcarbonyl, P₃O₉H₄, P₂O₆H₃, or P(O)R¹¹R¹²;
 R⁶ and R⁷ are each independently hydrogen, methyl, hydroxymethyl, or fluoromethyl;
 R⁸ is hydrogen, C₁₋₄ alkyl, C₂₋₄ alkynyl, halogen, cyano, carboxy, C₁₋₄
 alkyloxycarbonyl, azido, amino, C₁₋₄ alkylamino, di(C₁₋₄ alkyl)amino, hydroxy,
 20 C₁₋₆ alkoxy, C₁₋₆ alkylthio, C₁₋₆ alkylsulfonyl, or (C₁₋₄ alkyl)₀₋₂ aminomethyl;
 R⁹ is hydrogen, hydroxy, halogen, C₁₋₄ alkoxy, C₁₋₄ alkylthio, amino,
 C₁₋₄ alkylamino, di(C₁₋₄ alkyl)amino, C₃₋₆ cycloalkylamino, or
 di(C₃₋₆ cycloalkyl)amino;
 R¹⁰ is C₁₋₄ alkylamino, wherein the alkyl moiety is substituted with one to three
 25 halogen atoms; -OCH₂CH₂SC(=O)C₁₋₄ alkyl; -OCH₂O(C=O)OC₁₋₄ alkyl;

-OCH(C₁₋₄ alkyl)O(C=O)C₁₋₄ alkyl; or an amino acyl residue having structural formula



R¹³ is hydrogen, C₁₋₄ alkyl, or phenyl C₀₋₂ alkyl;

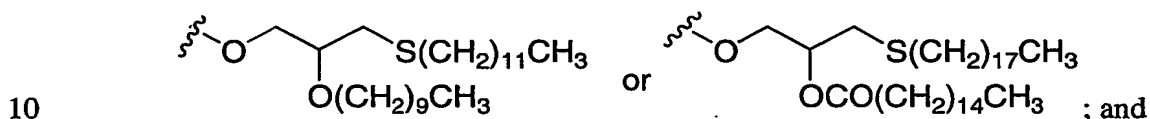
5 R¹⁴ is hydrogen or C₁₋₄ alkyl;

R¹⁵, R¹⁶, R¹⁸, and R¹⁹ are each independently hydrogen or C₁₋₄ alkyl;

R¹¹ and R¹² are each independently hydroxy, -OCH₂CH₂SC(=O)C₁₋₄ alkyl,

-OCH₂O(C=O)OC₁₋₄ alkyl, -NHCH(C₀₋₄ alkyl)CO₂C₁₋₃ alkyl,

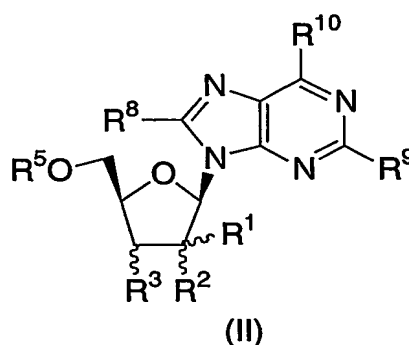
-OCH(C₁₋₄ alkyl)O(C=O)C₁₋₄ alkyl,



R¹⁷ is hydrogen, halogen, cyano, nitro, NHCONH₂, CONR¹⁸R¹⁹, CSNR¹⁸R¹⁹, COOR¹⁸, C(=NH)NH₂, hydroxy, C₁₋₃ alkoxy, amino, C₁₋₄ alkylamino, di(C₁₋₄ alkyl)amino, or C₁₋₃ alkyl; wherein alkyl is unsubstituted or substituted with one to three groups independently selected from halogen, amino, hydroxy, carboxy, and C₁₋₃

15 alkoxy.

2. The compound of Claim 1 of the structural formula II:



or a pharmaceutically acceptable salt thereof;

20 wherein R³ is hydrogen, halogen, hydroxy, amino, or C₁₋₄ alkoxy;

R¹ is C₁₋₃ alkyl, wherein alkyl is optionally substituted with hydroxy, amino, C₁₋₃ alkoxy, C₁₋₃ alkylthio, or one to three fluorine atoms;

R² is hydroxy, fluoro, or C₁₋₃ alkoxy;

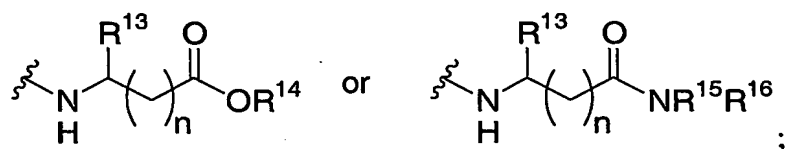
R⁵ is hydrogen, P₃O₉H₄, P₂O₆H₃, or PO₃H₂;

5 R⁸ is hydrogen, amino, or C₁₋₄ alkylamino;

R⁹ is hydrogen, halogen, hydroxy, amino,
C₁₋₄ alkylamino, di(C₁₋₄ alkyl)amino, or C₃₋₆ cycloalkylamino;

R¹⁰ is C₁₋₃ alkylamino, wherein the alkyl moiety is substituted with one to three fluorine atoms; or an amino acyl residue having structural formula

10



R¹³ is hydrogen, C₁₋₄ alkyl, or phenyl C₀₋₂ alkyl;

R¹⁴ is hydrogen or C₁₋₄ alkyl; and

R¹⁵ and R¹⁶ are each independently hydrogen or C₁₋₄ alkyl.

15

3. The compound of Claim 2 wherein

R¹ is methyl, fluoromethyl, hydroxymethyl, difluoromethyl, trifluoromethyl, or aminomethyl;

R² is hydroxy, fluoro, or methoxy;

20 R³ is hydrogen, fluoro, hydroxy, amino, or methoxy;

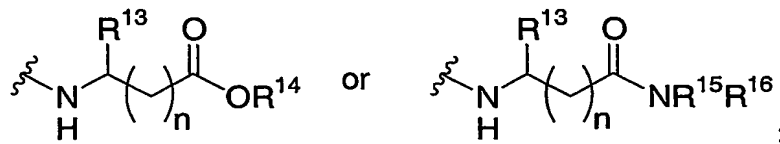
R⁵ is hydrogen or P₃O₉H₄;

R⁸ is hydrogen or amino;

R⁹ is hydrogen, fluoro, hydroxy, or amino;

R¹⁰ is 2,2,2-trifluoroethylamino or an amino acyl residue having structural formula

25



R¹³ is hydrogen, C₁₋₄ alkyl, or phenyl C₀₋₂ alkyl;

R¹⁴ is hydrogen or C₁₋₄ alkyl; and

R¹⁵ and R¹⁶ are each independently hydrogen or C₁₋₄ alkyl.

4. The compound of Claim 3 selected from the group consisting
- 5 of:
- 2-[2-amino-6-(2,2,2-trifluoroethylamino)-9-(2-C-methyl-β-D-ribofuranosyl)-9H-purine;
- 3-[2-amino-9-(2-C-methyl-β-D-ribofuranosyl)-9H-purin-6-yl-amino]propionic acid methyl ester; and
- 10 2-[2-amino-9-(2-C-methyl-β-D-ribofuranosyl)-9H-purin-6-yl-amino]-acetamide;
- and the corresponding 5'-triphosphates;
- or a pharmaceutically acceptable salt thereof.

5. A pharmaceutical composition comprising a compound of
- 15 Claim 1 and a pharmaceutically acceptable carrier.

6. A method of treating RNA-dependent RNA virus infection comprising administering to a mammal in need of such treatment a therapeutically effective amount of a compound according to Claim 1.
- 20

7. The method of Claim 6 wherein said RNA-dependent RNA virus infection is hepatitis C virus (HCV) infection.

8. The method of Claim 7 in combination with a therapeutically
- 25 effective amount of another agent active against HCV.

9. The method of Claim 8 wherein said agent active against HCV is ribavirin; levovirin; thymosin alpha-1; interferon-β; an inhibitor of NS3 serine protease; an inhibitor of inosine monophosphate dehydrogenase; interferon-α or
- 30 pegylated interferon-α, alone or in combination with ribavirin or levovirin.

10. The method of Claim 9 wherein said agent active against HCV is interferon-α or pegylated interferon-α, alone or in combination with ribavirin.

11. Use of a compound of Claim 1 for treatment of RNA-dependent RNA virus infection in a mammal.

5 12. The use of Claim 11 wherein said RNA-dependent RNA virus infection is HCV infection.

10 13. Use of a compound of Claim 1 in the manufacture of a medicament for treatment of RNA-dependent RNA virus infection in a mammal.

14. The use of Claim 13 wherein said RNA-dependent RNA virus infection is HCV infection.